Communicable Disease UPDATE

Newsletter of the Bureau of Communicable Disease Control, Massachusetts Department of Public Health Vol. 16, No.1 Winter 2008

TB Outreach Educator Honored

Juan Valerio, TB Outreach Educator for the Massachusetts Division of TB Prevention and Control, was recently honored as part of the Commonwealth of Massachusetts Performance Recognition Program which recognizes the outstanding contributions of individuals and groups of state employees who play a major role in the successful delivery of quality services to the citizens of Massachusetts. Juan, as well as nine other employees across all state agencies, was the recipient of the highest level of recognition, the 2007 Manuel Carballo Governor's Award for Excellence in Public Service. This award is given annually to no more than ten employees who exemplify the highest standards of public service. Nominations are screened by a selection committee comprised of the Speaker of the House, the President of the Senate and gubernatorial appointees from business, labor, community groups, academia and the media. The selection criteria include some the following: exceptional accomplishment, exemplary leadership, initiative or dedication, and creativity or innovation. Juan was honored at a special awards ceremony at the Sheraton Boston Hotel on Friday, October 5th, where he was given his citation by Governor Deval Patrick

Governor Duval Patrick and Juan Valerio

The TB Division and the entire Department of Public Health is extraordinarily proud of Juan. He is on the "front lines" of TB control every day, serving what are sometimes the hardest to reach populations in Massachusetts. He has given 19 years of service to the TB Division as a fulltime Outreach Educator covering the Boston neighborhoods and clinic sessions at Boston TB clinics. In that role he has worked with TB patients of all backgrounds, their families and others in the community; providing TB education; monitoring patients on treatment; providing directly observed therapy (DOT) and social service support; providing interpreter services at Boston Medical Center; making home visits; monitoring treatment adherence and medication side effects; following up on track patients who miss their appointments; and identifying contacts of TB cases and referring them for evaluation.

Outreach education has always been more than just a job to Juan. For example, he orients others to the role of the TB Outreach Educator and physicians often shadow him on patient home visits to see what public health community work is like first hand. He is the first to volunteer for TB-related activities that may be outside of his traditional outreach role. Last fall, Juan volunteered to assist the TB Division's Outbreak Response Team by working as an interpreter and educator at one of the state's prisons in follow-up to a cluster of reported TB cases.

It would be impossible to calculate the number of extra hours that Juan puts into his public health work. He often sees patients for DOT as early as 6 AM to catch them before they go to work, or in the evening or weekends, as needed. He is always available to his patients, whenever they call. He does all this with no expectation of compensation – "it's just part of the job" and he sees them wherever it is convenient for the patient – street corners, under bridges, economically depressed

continued on page six

Update on Refugee Health Information Network

The Refugee Health Information Network (RHIN) is an electronic resource designed to make culturally and linguistically appropriate health information accessible in order to improve health services for refugees and asylees. RHIN is also designed to facilitate collaboration and sharing of information among state refugee health coordinators and health centers providing services to refugee and immigrant communities.

A recent redesign of the website (www.rhin.org) has resulted in easier access to the database of health information in languages spoken by refugee groups. Materials are in print, audio and video formats. A developing feature of RHIN is a database of refugee health information for providers, including assessment guidelines, cultural information, news and current events.

At this time, RHIN organizers are actively seeking quality materials from developers and users to further expand the database. A user-friendly wizard on the RHIN website facilitates the uploading of electronic files; materials are then reviewed, indexed, and abstracted before being added to the site. Persons using trusted multilingual materials are encouraged to share these via the website.

Look Inside!

Epidemiology

Healthcare-Associated MRSA (HA-MRSA) and Community-Associated MRSA (CA-MRSA): A Comparison

Staphylococcus aureus (Staph) bacteria are commonly found on human skin and in the nose of healthy individuals. Approximately 25-30% of the population is colonized with these bacteria[1] and 5-10% of these Staph are methicillin-resistant *Staphylococcus aureus* (MRSA). *S. aureus* can cause skin infections, such as pimples, boils, or infections of surgical or traumatic wounds, as well as invasive, severe infections such as bacteremia, septic arthritis, endocarditis or necrotizing pneumonia. Most Staph infections are minor (ordinary boils, furuncles, impetigo, cellulitis) and minor Staph infections are common in children.

Staph, including MRSA, reproduce on human body surfaces, not on environmental surfaces. Although environmental surfaces may be contaminated with Staph, including MRSA, almost all transmission of the bacteria from person-to-person is through skin-to-skin contact. A person carrying MRSA is no more or less likely to develop a Staph infection than a person carrying a non-resistant Staph.

Antimicrobial Resistance and Healthcare-Associated MRSA

Resistance to penicillin and other beta-lactam antibiotics (methacillin, oxacillin and cephalosporins) relatively quickly after they were introduced as treatment options. As penicillin-resistant Staph became a common cause of hospital-acquired infection in the late 1950s and early 1960s, drugs such as methicillin, oxacillin and nafcillin, were used instead to treat these infections. Over the ensuing 20 years, methicillin (oxacillin)-resistant *S. aureus* (MRSA) infections became more prevalent in hospitals and long-term care facilities. Individuals who had extensive and/or multiple hospitals stays, exposure to nursing homes or dialysis centers, treatment with antibiotics (especially broad-spectrum antimicrobials), indwelling catheters, and underlying illnesses were at particular risk for acquiring MRSA infection. These infections were described as healthcare-associated MRSA, or HA-MRSA.

HA-MRSA tends to be resistant to many commonly prescribed antimicrobials, including erythromycin, clindamycin and tetracycline. Vancomycin, linezolid and daptomycin are antimicrobial agents used to treat severe HA-MRSA infections. While some strains of *S. aureus* that cause HA-MRSA infections are susceptible to trimethoprim-sulfamethoxazole, gentamicin and rifamipin, these drugs are not considered front-line agents for severe infection. Rifampin should never be used as a single agent to treat MRSA infections but always in combination with another effective agent due to the rapid emergence of resistance. [2]

In the healthcare setting, MRSA can be transmitted through the contaminated hands of healthcare workers and can be prevented, as can other healthcare associated infections by using well-established infection control guidelines, especially hand hygiene. A recent study suggested that as many as 94,360 individuals in the United States developed a serious MRSA infection during 2005 with approximately 18,650 deaths[3]; the vast majority of these cases were healthcare-associated.

Community-Associated MRSA (CA-MRSA)

Over the past ten years, an increasing number of skin and soft tissue infections due to MRSA have been reported among individuals who do not have risk factors for HA-MRSA. These infections are described as community-associated MRSA or CA-MRSA. CA-MRSA is typically resistant to other beta-lactam agents and erythromycin, but tend to be susceptible to other antibiotics to which HA-MRSA are usually resistant. Often, CA-MRSA skin infections, such as boils, can be treated with incision and drainage alone.

Severe infections with CA-MRSA in otherwise healthy people are rare. For example, severe infections occur in approximately one in 100,000 to 200,000 school-age children each year. Fatal severe infections in children are very rare, with none among children with non-healthcare-associated MRSA infection in a recent study[3]. Most severe MRSA infections are associated with hospitalization, underlying diseases, indwelling devices and much older age.

Preventing MRSA Infection

MRSA infection in the community is preventable by careful attention to hygiene, especially hand washing and sanitizing; avoidance of skin injury; proper care of cuts, scratches and abrasions; avoidance of shared clothes and equipment that are in contact with the body; and sanitizing of exercise and athletic equipment that is immediately shared by other people. Skin infections should be covered by clean, dry dressings. In all circumstances the most important measure to prevent skin infections is handwashing.

Sanitizing shared exercise and other equipment with skin contact is a good practice but other environmental surfaces outside of healthcare facilities do not need to be disinfected. Routine cleaning with soap and water of these types of indoor environments as part of a regular maintenance program, is appropriate

MRSA Outbreaks

Outbreaks of MRSA infection in the community occur when a higher rate of MRSA carriage is associated with conditions of compromised hygiene, shared towels, clothing and athletic equipment, and frequent superficial injury. Fortunately, very few people get infection with MRSA because they do not have the cuts or other breaks in skin integrity that gives MRSA, or any sort of Staph, the opportunity to invade. Damaged skin is especially susceptible to infection if it is not properly cared for and kept clean. ***continued on page nine***

MDPH Efforts Underway to Enhance Influenza Surveillance

The MDPH has undertaken efforts in the 2007-08 influenza season to enhance influenza surveillance. These efforts are intended to support the three underpinnings of routine influenza surveillance:

1. Monitoring seasonal influenza;
2. Supporting pandemic preparedness; and
3. Establishing a foundation for surveillance during a pandemic.

The first step in the influenza surveillance system is the submission of specimens to the State Laboratory Institute (SLI). The testing of specimens and strain typing allows for: (1) the determination of how circulating strains match with current vaccine strains; and (2) the identification of novel strains of influenza that may evolve into a pandemic strain. Over the past few influenza seasons, the number of submissions has been relatively low. For example, during the 2006-07 influenza season, only 65 specimens were submitted to SLI.

To increase the number of specimens submitted, the influenza surveillance team has created a pilot program with hospitals. This pilot includes the recruitment of hospitals to send 10-15 specimens to SLI over the course of the influenza season. A small number of hospitals are initially being enrolled for the pilot, and then all hospitals will be invited to participate later in the season. Along with traditional physician sentinel surveillance, this project is intended to increase the number of specimens tested and enhance virologic surveillance across.

Since 2003, laboratory test results indicative of influenza have been reportable to the Department of Public Health (105 CMR 300.00). This includes rapid diagnostic tests. Last year, approximately 4,300 reports were received, in comparison to 7,600 and 9,700 in the 2005-06 and 2004-05 seasons, respectively. While this decrease in reporting is due, in part, to the mild season, analysis of reporting between 2004 and 2006 indicates that MDPH received reports from a very limited number of facilities/individuals.

Current efforts to ensure more complete reporting include the following:

(A) Revision of the Reporting Forms
The reporting form itself, a teleform (a form that is faxed to MDPH and allows automatic data entry) was changed from a pre-populated, provider-specific form to one that is allows the reporter to fill in their own contact information, allowing the form to be more easily distributed and shared.

(B) Increased Promotion
This fall, over 17,000 providers and 180 laboratory directors and virology laboratory directors received a mailing that included the revised teleform and a memo about influenza reporting.

(C) Reporting Highlighted at Local Conferences
Influenza reporting was discussed at the 8 immunization updates held across the state in the spring 2007, as well as at the two state-wide immunization conferences, which attracted over 1200 participants.

New Centralized Vaccine Ordering System to be Rolled out in 2008

Vaccine Ordering
When Massachusetts implements the Centers for Disease Control and Prevention's (CDC) Vaccine Management Business Improvement Project (VMBIP), tentatively scheduled for June 2008, state-supplied vaccine will no longer be available from local distributors. Vaccine providers will submit orders for vaccine on a regular schedule, based on the amount of vaccine administered per year. A national distributor will ship vaccine directly to the office. Please see the table below for the recommended delivery schedule based on the amount of vaccine administered annually in your practice.

No. of Doses Administered/Year	Delivery Schedule	Size of Order	Minimum Storage Capacity Needed
≥ 2,000	Once/month	1-month supply	2-month supply
500 – 1,999	Once every 2 months	2-month supply	3-month supply
100 - 499	Once every 3 months	3-month supply	4-month supply
< 100 doses	Once every 6 months	As needed	As needed

Vaccine delivery will take approximately 2 weeks, so providers should manage their vaccine inventory in order to have at least a 6-week supply on hand when an order is placed.

Vaccine Storage Capacity
In preparation for the transition to centralized vaccine distribution, it is critical to ensure that your refrigerator has the capacity to store the largest volume of vaccine you may need during the year, including sufficient vaccine to carry you between orders, plus a 1-month reserve. Use the following to determine if your current refrigeration capacity is sufficient for your anticipated storage needs based on the table above:

· Anticipate the addition of new vaccines and plan for newer packaging of vaccines (Menactra® will soon be packaged in syringes).
· Adequate air circulation in the refrigerator is essential to maintain a uniform temperature

continued on page nine

STIs and Women's Health: Trends and Resources

Sexually transmitted infections pose unique challenges for women's health. Women are more likely than men to become infected, if exposed to an STI. Many women experience few, if any, symptoms of infection, potentially leading to delays in diagnosis and treatment that put them at higher risk of developing complications, such as pelvic inflammatory disease (inflammation of the reproductive organs), ectopic pregnancy and infertility. Fortunately, routine screening can decrease a woman's risk for developing STI related complications.

Because of these health risks, the MDPH Division of STD Prevention (DSTDP) monitors trends in STI rates among women in Massachusetts. In 2006, reported chlamydia infection was more common in women and continues an increasing trend over the past ten years. This is in part, due to increased adoption of recommended routine screening for infection. In comparison, reported cases of gonorrhea have remained relatively stable for both women and men.

The MDPH DSTDP continues efforts to educate and support health care providers in appropriate STI-related screening and care for women. Findings from eight Massachusetts family planning clinics indicate that ~25% of women who return for re-testing are found to be re-infected with chlamydia three to eleven months after their original diagnosis. The DSTDP and the Centers for Disease Control and Prevention (CDC) recommend re-testing women approximately 3 months after treatment for chlamydia infection (CDC, Sexually Transmitted Diseases Treatment Guidelines. *MMWR* 55(RR-11), 2006).

In addition to on-going education and training, the DSTDP has developed new resource materials for women. The new booklet "It's All About You" is a guide for young adult women that stresses knowledge about sexual health, routine testing and self-care. The DSTDP also produces a fact sheet focusing specifically on women and STIs, in addition to other fact sheets on common sexually transmitted infections. All materials are free and available on our website at www.mass.gov/dph/cdc/factsheets/factsheets.htm or via the DSTDP at (617) 983-6940.

If you are interested in training focusing on women's health and STIs, please contact Sheila Nelson, MPH, MSW, Division of STD Prevention's Women's Health Coordinator, at (617) 983-6961 or sheila.nelson@state.ma.us.

Sylvie Ratelle STD/HIV Prevention Training Center

The Sylvie Ratelle STD/HIV Prevention Training Center of New England (PTC) is one of ten sites nationwide funded by the Centers for Disease Control and Prevention (CDC) to provide clinical training to healthcare providers in the diagnosis, treatment and management of sexually transmitted diseases and the prevention of human immunodeficiency virus (HIV) infection. Courses are free-of-charge and available to clinicians throughout the New England states.

The 2008 PTC training calendar has with a variety of opportunities for clinicians to update their STD knowledge and clinical skills. Three day intensive courses are offered in Boston, Hartford and Providence, and combine didactic lectures and case studies with hands-on time in local STD clinics. "Flex course" formats allow the busy clinician to schedule experiential clinic time when it is convenient for them. Laboratory courses are held in Boston and integrate lectures on methodology, interpretive techniques, observations and demonstrations with hands-on exercises using clinical specimens. Community lectures are held throughout New England and provide state-of-the-art STD updates. Online training modules are also offered and provide free continuing education credits.

Interested in a course? Check out the 2008 Schedule at a Glance on the PTC website. For more information about the PTC or to access course information and applications, visit http://www.mass.gov/dph/cdc/stdtcmai/stdtcmai.htm. For educational resources and materials, visit the website of the National Network of Prevention Training Centers at www.stdhivpreventiontraining.org. Be sure to share this information with a colleague!

Refugee and Immigrant Health

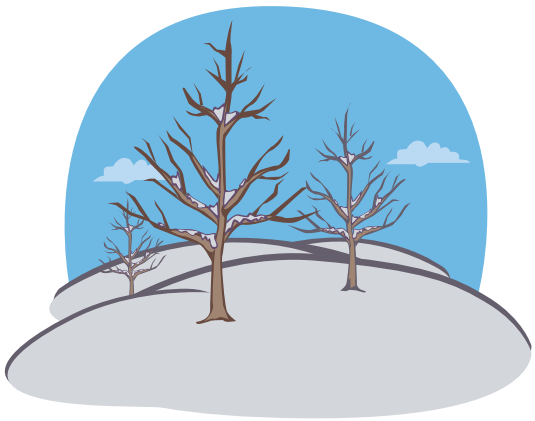
Initiative to strengthen surveillance among newly-arrived refugees and immigrants

The Bureau of Communicable Disease Control (BCDC) was one of three successful applicants for a new CDC initiative in domestic refugee and immigrant health. The goal of the five-year project is to control communicable diseases among newly-arrived refugees and immigrants in Massachusetts by strengthening surveillance systems and disease control activities.

During an initial phase, a retrospective case analysis will provide an understanding of weaknesses and strengths of current communicable disease surveillance systems and serve as the base for design of enhancements and improvements. The capacity of the BCDC web-based MAVEN system for disease surveillance and case management will be expanded to incorporate refugee data; improving coordination with regional offices, health assessment providers and local health departments. A longer-term objective is to implement electronic refugee health assessment reporting, which will allow for real-time response to newcomer health needs, while improving efficiency for both health assessment providers and public health.

Additional strategies to improve the quality and timeliness of case investigations include: training and deployment of RIHP bilingual community outreach educators; and increasing awareness among refugees, immigrants and staff at agencies serving new arrivals through culturally and linguistically appropriate education and outreach.

Finally, by strengthening working relationships with international partners, such as the International Organization for Migration (IOM), there may be opportunity to improve response to communicable diseases among new arrivals. The recent Refugee Health Update conference provided a strong foundation for discussion of future linkages with IOM.



Refugee Health Update

The Massachusetts Medical Society (MMS) hosted the November 28, 2007 CME program, *Clinical Updates for Refugee Health*, which was organized by the Bureau of Communicable Disease Control. Plenary speakers were from the International Organization for Migration, the Division of Global Migration and Quarantine at the Centers for Disease Control and Prevention, and the Office of Global Health Affairs, US Department of Health and Human Services. Highlights from speaker presentations included:

§ **New Technical Instructions (TIs) for pre-departure tuberculosis (TB) evaluation have been implemented for Burmese refugees from Thailand resettling in the US.** The new TIs expand categories of persons for whom laboratory screening is required and extend laboratory investigation to culture and drug sensitivity testing. Other changes in the TIs include tuberculin skin testing (TST) for all children age 2-14 years and contacts to known TB cases; chest x-rays for TST-positive children and contacts; and, shorter periods of validity. As with the earlier TIs, a chest x-ray is required for all applicants age 15 years and older. The TIs can be accessed through the CDC website http://www.cdc.gov/ncidod/dq/panel_2007.htm.

§ **Priorities for Fiscal Year 2008 U.S. refugee admissions include significant numbers of Iraqi, Burmese and Bhutanese refugees.** The proposed ceiling of 70,000 admissions, with an additional 10,000 unallocated reserve, is an increase over previous years. The full report of proposed FY08 refugee admissions can be accessed through the State Department website http://www.state.gov/g/prm/refadm/rls/rpts/2007/.

§ **The Geneva-based International Organization for Migration conducts pre-departure medical examinations of refugees for several receiving countries, including the US.** Specific data from evaluation of the first group of approximately 5,000 Burundian refugees in Western Tanzania to be screened for the US were presented. These refugees fled Burundi in 1972 during the first of the Great Lakes genocides, although with 68% of the camp population under age 24, most have never lived outside the camp.

Over 3,000 refugees and asylees resettle in the New England region annually, with significant diversity in the nationality of arrivals. The conference provided a venue for updates and discussion for the clinical staff from Maine, Massachusetts, New Hampshire and Rhode Island who participated.

Tuberculosis Surveillance Areas Reorganization

The Division of Tuberculosis Prevention and Control (DTBPC) has reconfigured Tuberculosis Surveillance Areas (TSAs) from six to five, eliminating the North Central TSA region. TSAs are staffed by DTBPC nurses and administrative staff and serve as surveillance and disease control regions. The following is a synopsis of the changes:

TSA 1 covers Western and Central Massachusetts. The TSA 1 office is located in the DPH Western Regional Health Office in Northampton.

TSA 2 covers Metro Boston, which includes Suffolk County (other than Boston), parts of Middlesex County, including greater Malden/Medford, Cambridge/Somerville, and Burlington areas, and the northern portion of Norfolk County from Dedham to Quincy. The TSA 2 office is in Canton at the DPH Metro West Regional Health Office.

TSA 3 covers Northeast and Northern Central Massachusetts, including greater Fitchburg/Leominster/Gardner areas. TSA 3 staff are located at the DPH Northeast Regional Health Office in Tewksbury.

TSA 4 is the City of Boston.

TSA 5 includes the southeastern part of the state, including the Cape and Islands, Blackstone Valley communities in southeast central MA, the remainder of Norfolk County, including Newton/Brookline and the greater Framingham area. The TSA 5 office is in the DPH Southeast Regional Health Office soon to be located in New Bedford.

TSA Contacts:

TSA1 - Central & Western: Myrna Leiper
Administrative Asst.: Evelyn Thomas
(800) 445-1255, Ext. 1127

TSA 2 - Metro Boston: Carolyn Harris, RN
Administrative Asst.: Dyesha Johnson
(781) 774-6737

TSA 3 - Northeast: Jo-Ann Keegan, RN
Administrative Asst.: Connie Parke

TSA 3 cont. - (978) 851-7261, Ext. 4049

TSA 4 - Boston: Boston PH Commission TB Program
(617) 534-4585

TSA 5 - Southeast, Cape & Islands: Joan Thompson-Allen, RN
Administrative Asst.: Sue Feder
(508) 977-3559

If you have any questions, please call Janice Boutotte at (617) 983-6986.

TB Outreach Educator Honored

continued from page one

neighborhoods, shelters, hospitals, etc. Juan recognizes that TB is just one part of the health and social service needs (food, housing, employment, cultural factors, etc.) of his patients. He recognizes that it is impossible to take care of TB without addressing other patient concerns that may interfere with completion of TB treatment. Juan is as much a social service worker as he is a TB care provider and educator.

As a community leader, and on his own time, Juan often speaks on TV and public radio programs to the Latino community on issues which include TB, HIV and other health related topics. Juan was a guest on the live call-in weekly Spanish radio program – La Salud y Usted, co-sponsored by the Office of Minority Health at the Department of Public Health, and he was also selected to participate in Por Christo (a volunteer medical service organization) for a community health tuberculosis project in Quito, Ecuador. He is the founder and president of a non-profit organization called FUNDARCO (Fundacion Del Arte y la Cultura Dominicana) which promotes the arts and culture of the Dominican Republic. He has written numerous health-related articles and is on the Board of various community organizations, newspapers and his own neighborhood health center. Recently, he received recognition for his outstanding performance as a poetry reader in the Community Reading Program of Hispanic Writers Week. He is also an active member of his church

To quote the final paragraph of his nomination "In summary, in his quiet, unassuming way, Juan Valerio promotes public health and public service every day in every aspect of his private and public life. He is a very caring person who is devoted to his family and dedicated to his job, his patients and his community. He is also well known and respected in the Latino community for his achievements, leadership, interpersonal skills and humanitarian heart".

Juan's colleagues in the Division are honored and proud to know and work with Juan each day.

Rolling out the Massachusetts HIV/AIDS Medical Monitoring Project (MMP)

Data collection is in full swing for the Massachusetts Medical Monitoring Project (MMP). MMP is a nationwide, CDC-funded supplemental surveillance project which will provide information about the experiences and needs of those in care for HIV/AIDS. The goals are to:

1. Provide local and national estimates for the population in care for HIV infection;
2. Determine health-related behaviors and access to and use of prevention and support services;
3. Gain knowledge of care and treatment provided; and
4. Examine variations by geographic area and patient characteristics.

The information is collected through face-to-face interviews and medical record abstraction. Interview data is collected by code number (no names) on an electronic questionnaire application on a laptop. Interviews cover a wide variety of topics and last about ninety minutes. Interviewers ask participations questions about their medical history, use of medical and social services, sexual practices, drug and alcohol use, and met and unmet needs.

The MMP supplements core HIV/AIDS surveillance data. There were supplemental HIV/AIDS surveillance projects over the last twenty years, but previous projects no longer meet surveillance needs, in part because the epidemic has changed. The MMP was designed to be more representative, to cover geographic changes in the spread of the virus, to address surveillance challenges created by antiretroviral therapy, to produce more locally useful data, and to link MMP interview data with MMP medical record abstraction data.

To obtain a representative sample of those in care for HIV infection, MMP used a 3-stage sampling design. In the first stage, 26 project areas around the country were chosen based on probability proportional to size. In the second stage, a sample of facilities providing HIV care was chosen in each project area. The facility sampling also used probability proportional to size. In the third stage, patients were randomly selected from a pool of all eligible patients at each facility.

This project is unique in the way that participation is offered to patients. Because of the sampling structure, specific patients are invited. If these patients do not want to participate or if they cannot be located, they cannot be replaced. Project staff cannot recruit patients, and patients cannot volunteer themselves for an interview. The first invitation to participate comes from doctors and nurses at the facilities. The selected patient can call MMP staff to hear more about the interview and medical record abstraction. Providers are crucial to encourage patients to participate. The representativeness of the data will be best with robust participation of providers and patients. So far, providers and patients have shown great interest in the project.

To encourage this interest, local and national project staff solicits advice from consumers through consumer advisory boards and from providers through provider advisory boards. This ensures that community members with HIV/AIDS, and the providers who care for them, have their concerns addressed and can provide input regarding the logistics of the project.

Data collection began in October and the interviews and medical record abstractions have been going smoothly. Participation will be offered to 400 patients around Massachusetts during this round of data collection. Interviews and medical record abstractions for this round will be completed by May 2008. Then new facilities and patients will be selected for the second round.

continued on page nine

Update on Name-Based HIV Infection Reporting

On January 1, 2007, regulatory changes went into effect requiring HIV infection to be reportable by name (as AIDS had been since 1983) in Massachusetts. Although the previous code-based system was performing well, prospectively, federal funding for Massachusetts will be based only on reported cases of AIDS and HIV infection that include names. However, no names or other personal identifiers are or can be reported to the federal government.

Beginning on January 1, 2007, all patients newly diagnosed with HIV infection and those previously diagnosed and currently alive and in care were to be reported by name. This included persons in care who may have previously been reported by code and those who may never been reported at all. Although name-based HIV infection case reports began to be collected on January 1, 2007, due to delays related to federal approval to move forward , HIV cases only began to be entered into the HIV/AIDS electronic surveillance system in October, 2007. As of December 1st, approximately 800 of 4,000 surveillance reports received have been entered into the surveillance system. The surveillance program staff has set a target of entering 500 per month until the backlog of HIV infection case reports has been eliminated.

Information on disease reporting requirements can be found at http://www.mass.gov/dph/cdc/surveillance/reporting_and_surveillance.htm and information on the HIV confidentiality statute, M.G.L. – Chapter 111 Section 70F is located at http://www.mass.gov/legis/laws/mgl/111-70f.htm.

You Be the Epi

You be the Epi: TB or Not TB?

Two unique suspect cases of tuberculosis (TB) were recently reported to the Massachusetts Department of Public Health (MDPH) within a few weeks of each other.

Case #1 was a 49 year old male, born in Vietnam, who had a history of a positive tuberculin skin test. He was reported as a suspect case of tuberculosis because of a chest CT scan that was abnormal, with right upper lobe and left lower lobe nodular opacities. Sputum specimens were negative for acid-fast bacilli (AFB) on smear, but biopsies of skin nodules on his extremities and back were positive for AFB on staining. He was started on a standard 4-drug anti-tuberculosis regimen. Cultures were negative after 60 days.

Could this be a TB case? A clinically verified case of TB (not microbiologically confirmed) meets the following criteria: a positive tuberculin skin test, signs and symptoms compatible with TB (abnormal chest x-ray, granulomas in other organs, etc.), improvement on treatment with two or more anti-tuberculosis medications, and a diagnostic evaluation ruling out other causes of the signs and symptoms. The fact that this patient did not improve on therapy, either by x-ray/CT scan or clinically, makes TB not clinically verifiable.

Case #2 was a 27 year old male who was born in Brazil. He had a positive tuberculin skin test, with a negative chest x-ray. He had a tissue biopsy that was negative on AFB stain, but tested positive by nucleic acid testing (MTD test) for evidence of infection with *Mycobacterium tuberculosis* complex. His sputum was negative on AFB smear and by culture. Because of the positive MTD test, he was started on a standard 4-drug anti-tuberculosis regimen, even though he did not meet the clinical case definition.

The positive MTD test misled the clinicians in this case. This patient also did not have TB. The MTD is a non-PCR based nucleic acid test that is useful for testing sputum and confirming AFB positive smears as being due to *M. tuberculosis*, but it is not FDA-approved for tissue specimens.

Both of these cases had Hansen's disease or leprosy. Leprosy is also called Hansen's disease after the Norwegian physician who described the causative agent, *Mycobacterium leprae*.

Both tuberculosis and leprosy are caused by mycobacteria, *M. tuberculosis* and *M. leprae*, respectively. *M. tuberculosis* doubles its numbers every 18-24 hours, while *M. leprae* takes about 14 days. Long generation times contribute to the chronic nature of both diseases.

The World Health Organization registered 219,826 cases of leprosy in 115 countries and territories in 2006. It is estimated that two to three million people in the world are permanently disabled because of leprosy. India has the greatest number of reported cases, with Brazil second and Myanmar third, and both of these cases came from high risk parts of the world. One-hundred and sixty-six (166) new cases of leprosy were reported in the US in 2005, and 60% of these new cases were reported in California, Louisiana, Massachusetts, New York and Texas. In the U.S. and the world, leprosy is underreported because of poor diagnosis and the substantial amount of stigma attached to the disease.

Leprosy primarily affects the skin, peripheral nerves and upper airway. Although historically it has been, and continues to be, feared as a highly contagious and devastating disease, leprosy is not very transmissible, is very treatable and, with early diagnosis and treatment, is not disabling. Transmission of leprosy from person to person, when and if it occurs, requires very close, long-term contact and a genetic predisposition to infection.

There are two forms of leprosy, tuberculoid and lepromatous, with a spectrum of disease between their full manifestations. Lepromatous leprosy occurs when the body is unable to mount an immune response and the bacteria freely multiply in the skin and mucous membranes of the nose and throat, leading to thickening and formation of nodules. The thickened tissues and nodules contain a large number of bacilli (and thereby called "multibacillary"), the bacteria themselves can amount to up to 10% of body weight. Tuberculoid leprosy occurs when the immune response is too robust, leading to dry, discolored skin, and decreased sensation. The insensitive fingers and toes are fragile and injury prone, with destruction and deformity the result. The immune response controls the reproduction of the bacteria resulting in a "paucibacillary" form of leprosy.

There are several drugs that are effective in treating leprosy, including clofazimine, rifampicin and dapsone. Unfortunately, although these drugs are effective, diagnosis is often made after some permanent damage occurs.

Demonstration of acid-fast bacilli in skin or dermal nerve is laboratory evidence of leprosy. The MDPH State Laboratory Institute (SLI) offers microscopy of skin biopsy specimens for AFB. It is not possible to grow *M. leprae* in either bacteriological or in cell culture. Testing of specimens using DNA amplification techniques may be coordinated between the SLI and the Centers for Disease Control and Prevention (CDC). As occurred in case #2, *M. leprae* can cause a positive test on MTD testing.

Cases of leprosy should be reported to the MDPH. The U.S. Public Health Service provides care for persons with leprosy at clinics around the country, including one at the Lahey Clinic in Burlington.

Clinicians rightly suspected TB in these two cases, but the ultimate diagnosis was leprosy. Leprosy is an infectious disease

continued on page nine

New Centralized Vaccine Ordering System to be Rolled out in 2008

continued from page three

throughout the unit. Take into account the following when determining your vaccine storage capacity:

· Maintain at least one inch between vaccine boxes, the ceiling and walls of the unit.

· Use multiple shelves. Do not stack vaccine boxes more than 2 boxes high.

· Never store vaccine in the refrigerator door.

Assess Your Vaccine Storage Capacity

· Use your current stock to determine the amount of storage capacity needed for a 1-month supply of vaccine.

· From the table, determine the number of months' supply you will need to accommodate.

· Use all the above information to determine whether your current storage capacity is sufficient to accommodate the amount of vaccine you will be required to store.

Example: A 1-month supply of vaccine currently fills half of your refrigerator space. Because your practice administers 1,500 doses of vaccine, you will need to be able to store a 3-month supply of vaccine. Your current vaccine storage capacity is not adequate and you will need to purchase another unit.

If You Need to Purchase a New Refrigerator

If your current storage capacity is not adequate for your anticipated vaccine storage needs, you will have to procure another unit. When selecting a new refrigerator, keep in mind the following:

· Never use dormitory-style refrigerators with uninsulated freezers to store vaccines.

· Avoid household refrigerators that have bins and unnecessary features. Remove solid bins or shelves from the unit. Use wire shelves and bins for storing vaccine.

· Adjustable shelves maximize storage space and decrease the need to stack vaccines.

· Laboratory-style refrigerators maximize storage capacity and have an operating temperature that is better programmed for biological storage.

· Identify space in your facility for the new refrigerator.

· Make sure your electrical capacity (110v or 220v) is adequate for the new unit.

· Do this now, so that you are prepared for the transition in June 2008.

We will provide ongoing information and education on VMBIP. In the future, look for additional flyers and advisories and web-based trainings. Information can be found on the web at: http://www.mass.gov/dph/cdc/epii/imm/vac_management/vmbip.htm. If you have any questions regarding VMBIP, ordering, or vaccine storage, please contact the Vaccine Management Unit at 617-983-6828.

Healthcare-Associated MRSA (HA-MRSA) and Community-Associated MRSA (CA-MRSA): A Comparison

continued from page two

For more information and educational materials on MRSA, including information about prevention measures, reporting requirements, wound care and cleaning and disinfection go to: http://www.mass.gov/dph/cdc/antibiotic/antibiotic_home.htm or call the Division of Epidemiology and Immunization at 617-983-6800. To learn more about preventing healthcare associated infections including MRSA, go to http://www.cdc.gov/ncidod/dhqp.

Footnotes

[1]Centers for Disease Control and Prevention. "Community-Associated MRSA Information for Clinicians".

[2]Centers for Disease Control and Prevention. "Laboratory Detection of Oxacillin/Methicillin-resistant *Staphylococcus aureus*". February 2005. http://www.cdc.gov/ncidod/dhqp/ar_lab_mrsa.html.

[3]Klevens RM, Morrison MA, Nadle J, *et al*. Invasive methicillin-resistant Staphylococcus aureus infections in the United States. JAMA 2007; 298: 1763-71.

Rolling out the Massachusetts HIV/AIDS Medical Monitoring Project

continued from page seven

The Medical Monitoring Project will provide information that can be used locally and nationally to improve services for people living with HIV/AIDS and to improve programs to prevent new infections.

If you have any questions about the Massachusetts Medical Monitoring Project, please call Laura Smock (Project Coordinator) at 617-983-6575, or Naomi Goodman (Epidemiologist/Data Manager) at 617-983-6565, or Judy DeCristofaro (Lead Interviewer/Abstractor) at 617-983-6576.

You Be the Epi

continued from page eight that is not particularly transmissible and is very treatable. However it remains a feared affliction and people with leprosy suffer from severe stigma and discrimination around the world.

For more information about leprosy, go to the web site of the International Association for Integration, Dignity and Economic Advancement at: http://www.idealeprosydignity.org/.

COMMUNICABLE DISEASE UPDATE is a quarterly publication of the Bureau of Communicable Disease Control, Massachusetts Department of Public Health.

Current and past issues of CD Update are available online at: http://www.mass.gov/dph/cdc/update/comnews.htm

Contact Jacqueline Dooley at jacqueline.dooley@state.ma.us or (617) 983-6559 to have PDF versions emailed to you.

John Auerbach, Commissioner of Public Health

Bureau of Communicable Disease Control
Alfred DeMaria, Jr., MD, Chief Medical Officer
Assistant Commissioner
Director, Bureau of Communicable Disease Control
State Epidemiologist
(617) 983-6550